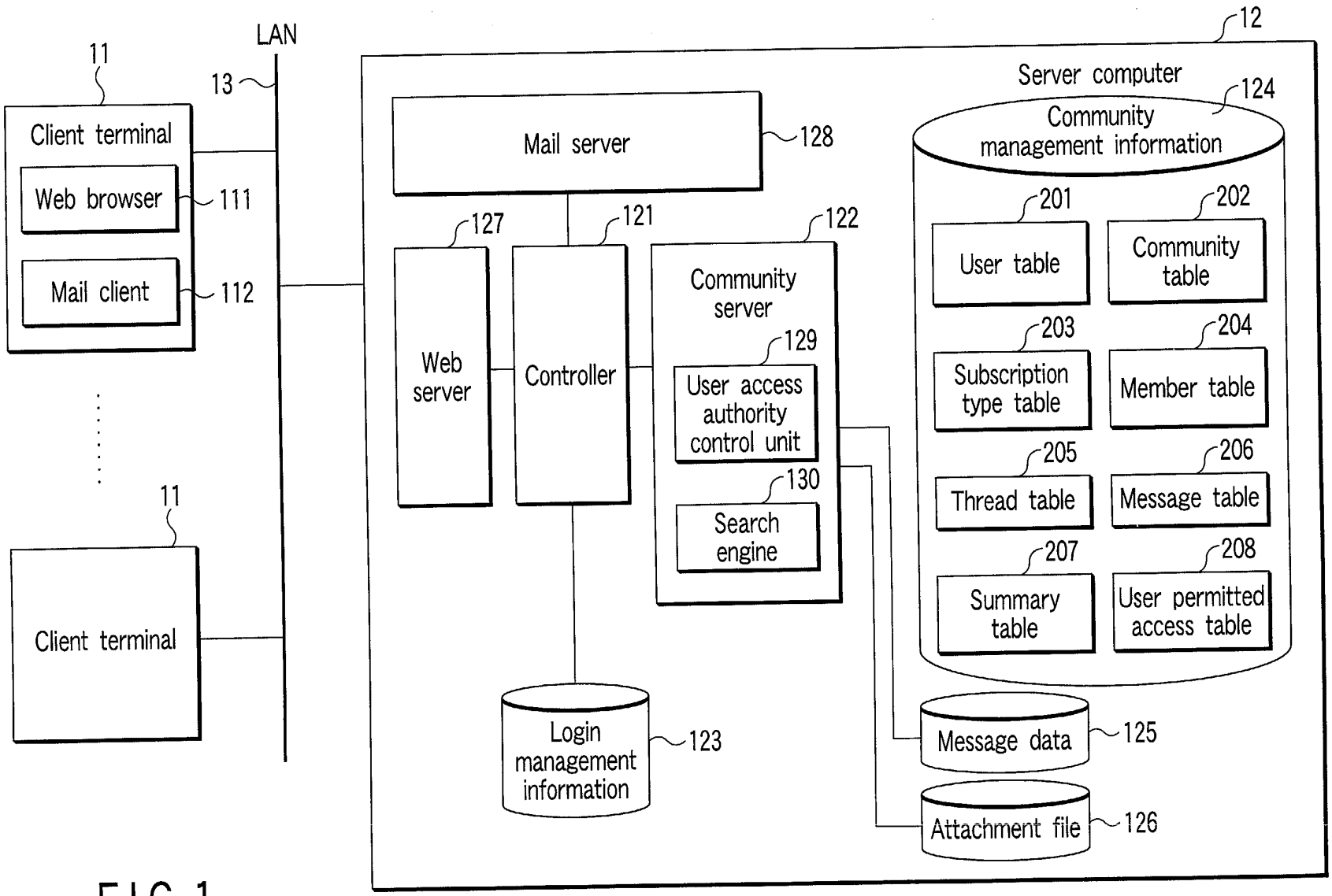
LAN
13
11
Client terminal
Web browser
111
Mail client
112
11
Client terminal
12
Server computer
Mail server
128
124
Community management information
127
121
122
Web server
Controller
Community server
129
User access authority control unit
130
Search engine
201
User table
202
Community table
203
Subscription type table
204
Member table
205
Thread table
206
Message table
207
Summary table
208
User permitted access table
Login management information
123
Message data
125
Attachment file
126

FIG. 1

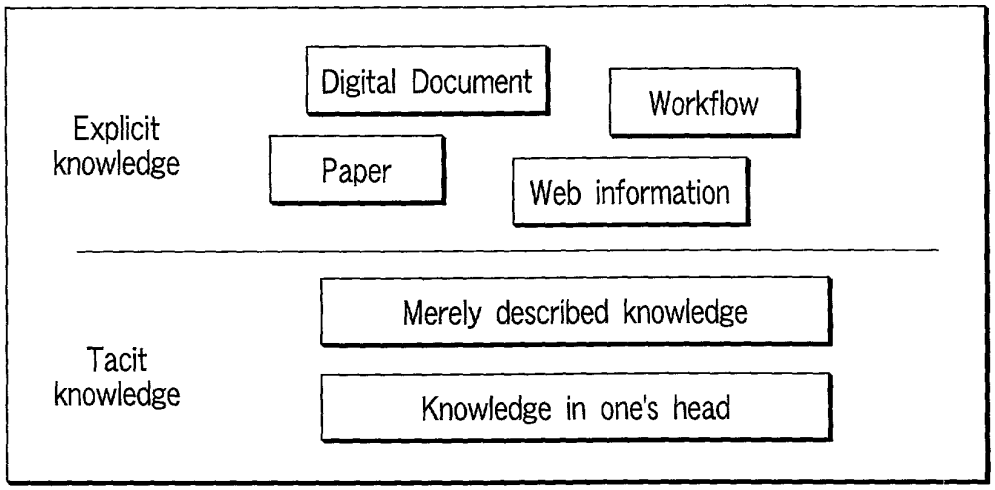
Digital Document
Workflow
Explicit knowledge
Paper
Web information
Merely described knowledge
Tacit knowledge
Knowledge in one's head

FIG. 2

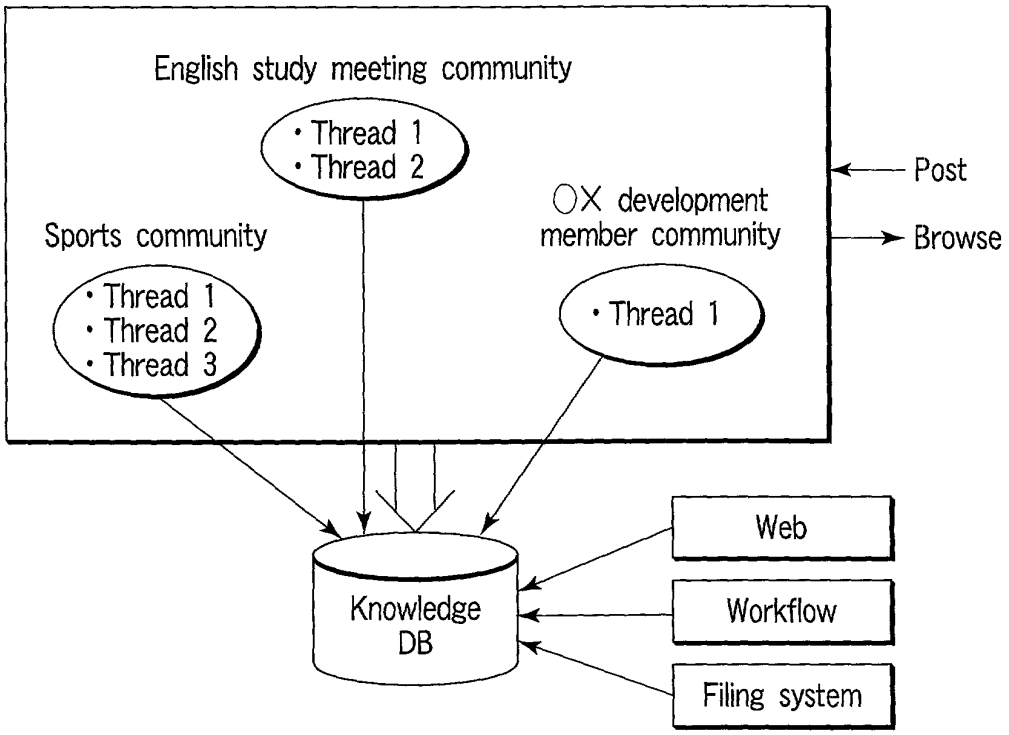
English study meeting community
• Thread 1
• Thread 2
Post
OX development member community
Browse
Sports community
• Thread 1
• Thread 2
• Thread 3
• Thread 1
Web
Knowledge DB
Workflow
Filing system

FIG. 3

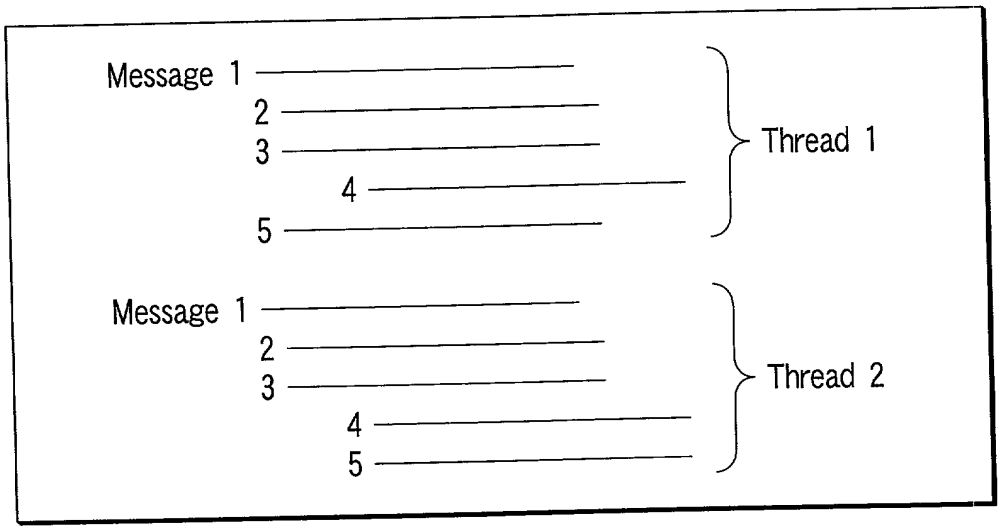
Message 1
2
3
4
5
Thread 1
Message 1
2
3
4
5
Thread 2

FIG. 4

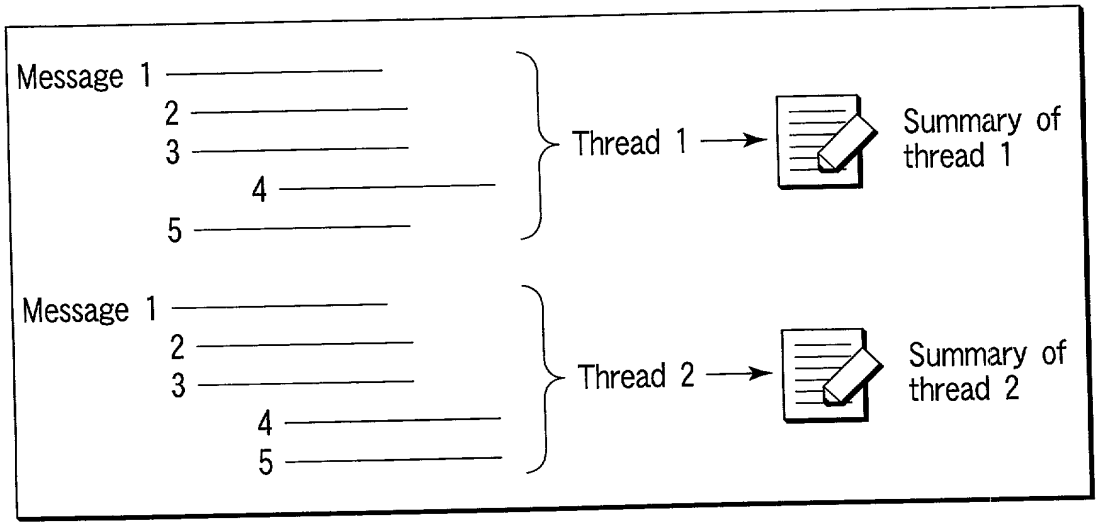
Message 1
2
3
4
5
Thread 1
Summary of thread 1
Message 1
2
3
4
5
Thread 2
Summary of thread 2

FIG. 5

User table

201

User ID	User name	Mail address
U00001	Ichiro Tanaka	ichiro.tanaka@xxxx.co.jp
U00002	Taro Yamada	taro.yamada@xxxx.co.jp
...	...	...

FIG. 6

Community table

202

Community ID	Community name	Community type	Member ID list
C001	Community A	Open	M000001, M000004,...
C002	Community B	Membership	M000002, M000003,...
...	...	...	...

FIG. 7

Subscription type table

203

User ID	User name	Community ID	Subscription type	Mail address
U00001	Ichiro Tanaka	C001	Web	
U00001	Ichiro Tanaka	C002	Mail	ichiro.tanaka@xxx.co.jp
U00002	Taro Yamada	C005	Web	

FIG. 8

Member table

204

Member ID	Member type	User name
M000001	Member	Ichiro Tanaka
M000002	Temporary registered member	Taro Yamada
M000003	Intending member	Ichiro Tanaka
M000004	Anonymous	Taro Yamada
...	...	...

FIG. 9

Thread table

205

Community ID	Thread ID list
C001	T01001, T01002, ...
C002	T02001, ...
...	...

FIG. 10

Message table

206

Thread ID	Message ID	Message data URL
T01001	G00000001	XXXXXXXXXXXXXXX
	G00000002	YYYYYYYYYYYYYYY
...	...	...

FIG. 11

Summary table

207

Thread ID	Message ID	Revision	Message data URL
T01001	S00000001	1	MMMMMMMMMMMMMMM
	S00000002	2	NNNNNNNNNNNNNNN
	...	...	...
	S0000000n	n	PPPPPPPPPPPPPPP

FIG. 12

Relationship among community, member, and user

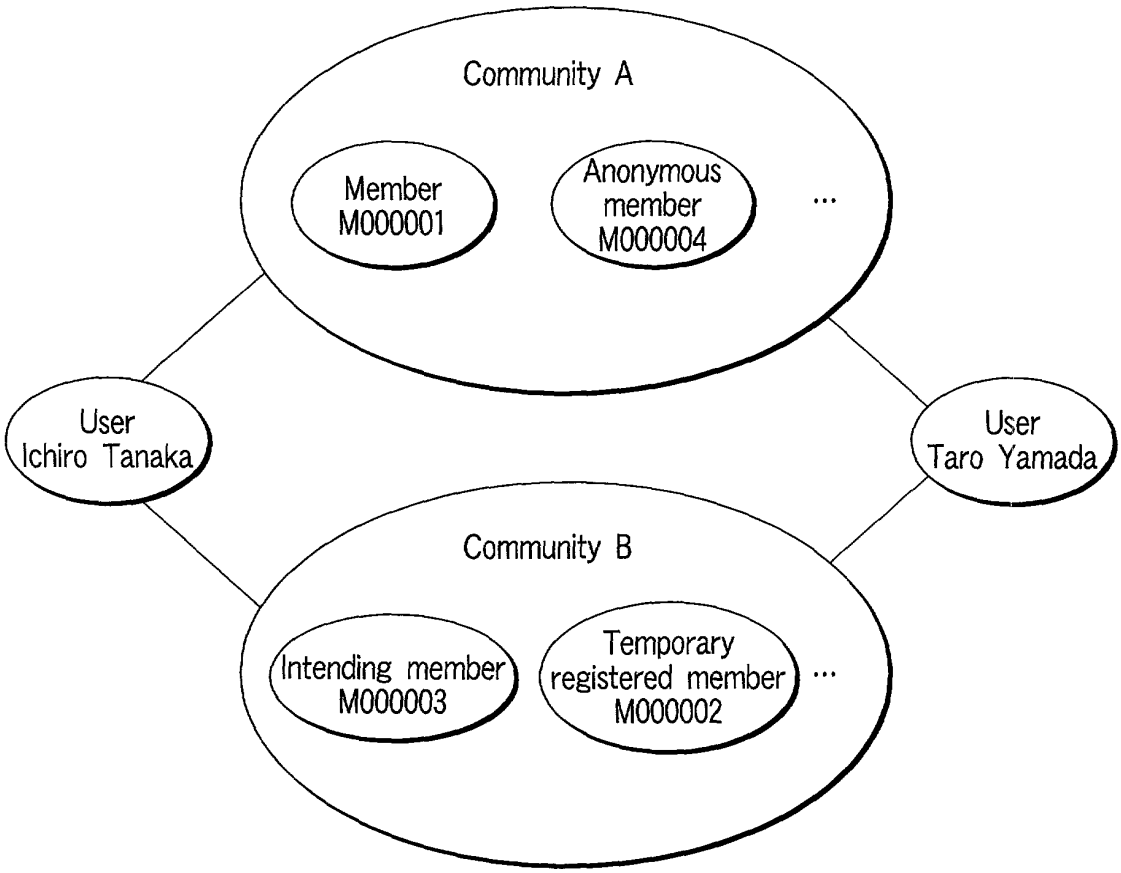

FIG. 13

User permitted access table

208

Member type \ Community type	Open	Membership	Closed
Member	{browse, post)	{browse, post)	{browse, post)
Temporary registered member	{browse, post) [invitation mail]	{browse, post) {browse open summary} [invitation mail] (sign-up → member)	{browse, post) !{browse summary} [invitation mail] (sign-up → member)
Intending member	{browse, post)	!{browse, post) {browse open summary}	!<community>
Anonymous	{browse}	!{browse, post) {browse open summary}	!<community>

FIG. 14

Attorney Docket

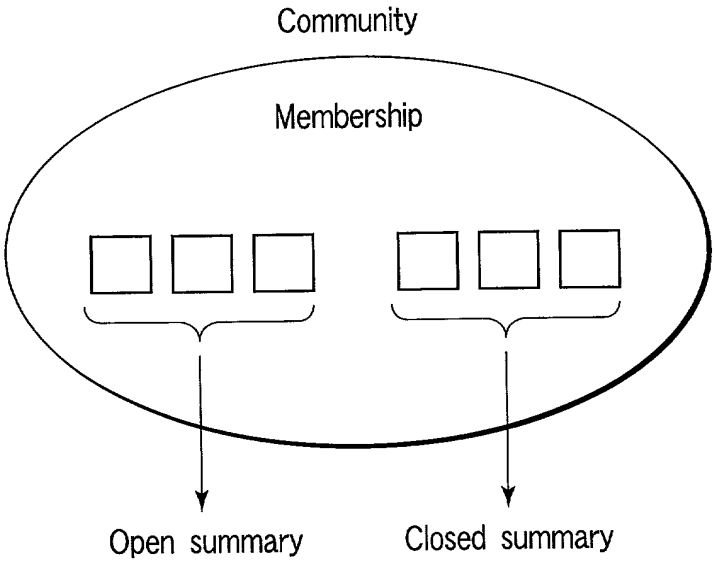

FIG. 15

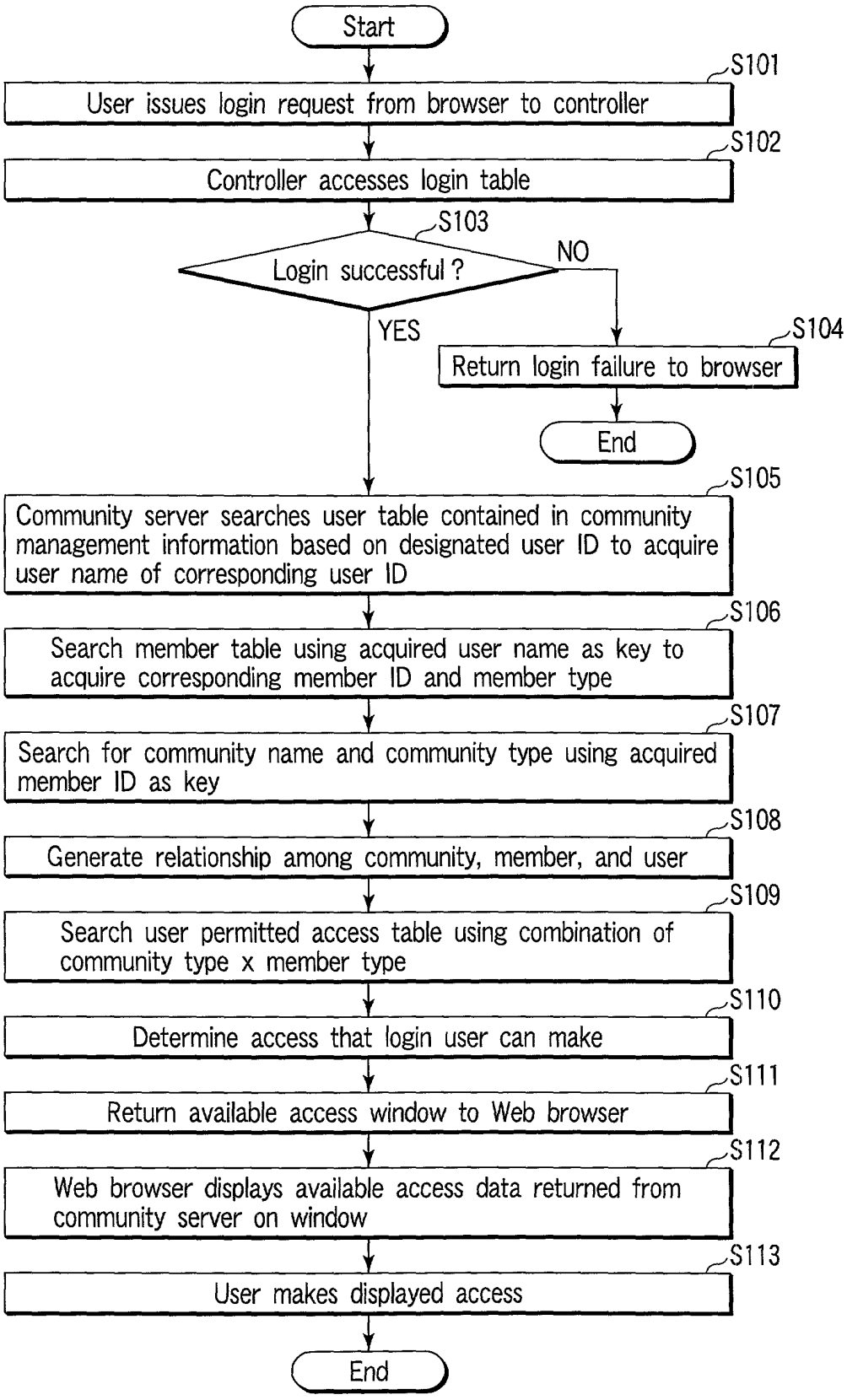
Start
S101
User issues login request from browser to controller
S102
Controller accesses login table
S103
Login successful ?
NO
YES
S104
Return login failure to browser
End
S105
Community server searches user table contained in community management information based on designated user ID to acquire user name of corresponding user ID
S106
Search member table using acquired user name as key to acquire corresponding member ID and member type
S107
Search for community name and community type using acquired member ID as key
S108
Generate relationship among community, member, and user
S109
Search user permitted access table using combination of community type x member type
S110
Determine access that login user can make
S111
Return available access window to Web browser
S112
Web browser displays available access data returned from community server on window
S113
User makes displayed access
End

FIG. 16

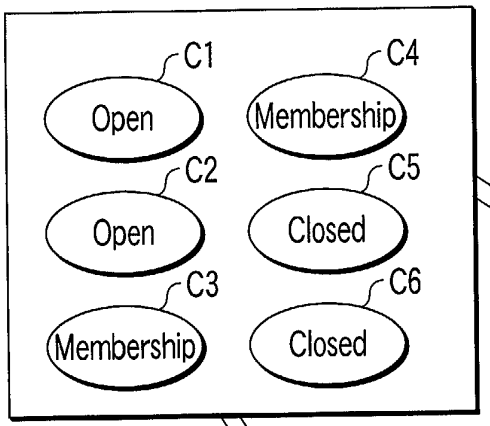

FIG. 17A

Member type
=intending member,
anonymous member
(C5, C6)

Community list window

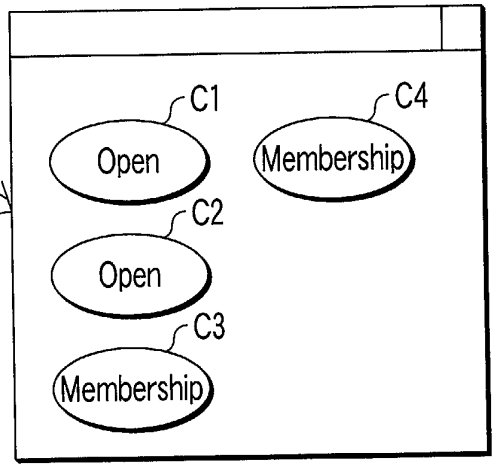

FIG. 17B

Member type
=member (C5)

Community list window

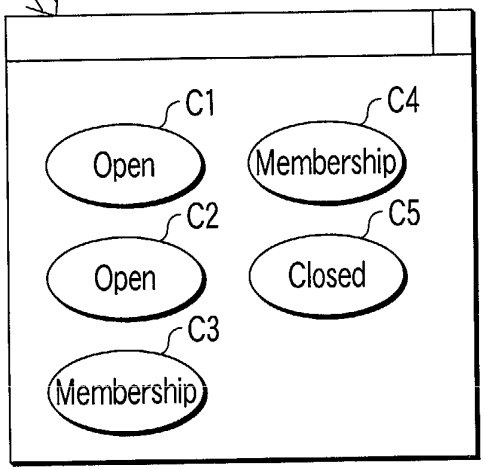

FIG. 17C

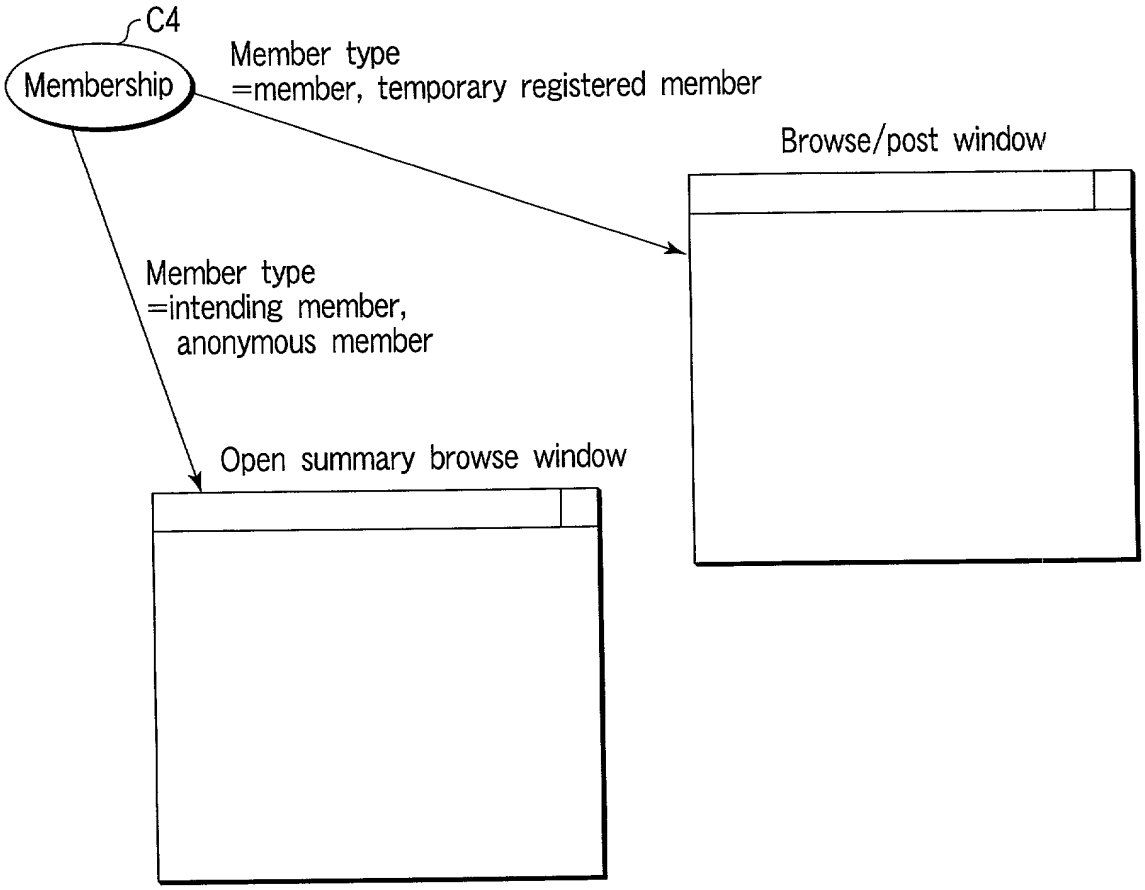
C4
Membership
Member type
=member, temporary registered member
Browse/post window
Member type
=intending member,
anonymous member
Open summary browse window

FIG. 18

My page window

Unread/ all messages	Community ([ ]=Subject name of mail)		Subscription status
0/474	■Open [AAA]	XXX user group aaa@XXXX.co.jp	Subscribe via mail
1/61	■Membership [BBB]	XXXXXX bbb@XXXX.co.jp	Subscribe via mail
3/251	■Membership [CCCCCCC]	Next XXX development ccc@XXXX.co.jp	Subscribe via mail
0/59	■Membership [DDDD]	XXXX platform ddd@XXXX.co.jp	Subscribe via mail
0/30	■Membership [EEEEE]	XXX project eee@XXXX.co.jp	Subscribe via mail
0/272	■Closed [FFFFFF]	XXX strategy fff@XXXX.co.jp	Subscribe via mail
3/167	■Closed [GGGGGG]	XXX gossip ggg@XXXX.co.jp	Subscribe via mail
1/7	■Closed [HHHHH]	XXX FAQ hhh@XXXX.co.jp	Subscribe via mail
2/55	■Closed [IIIIIII]	XXX examination group iii@XXXX.co.jp	Subscribe via mail

Temporary registered community

Community		Subscription status
■Closed	OOOO group	Temporary registered member

Introduction XXXXXXXXXX

FIG. 19

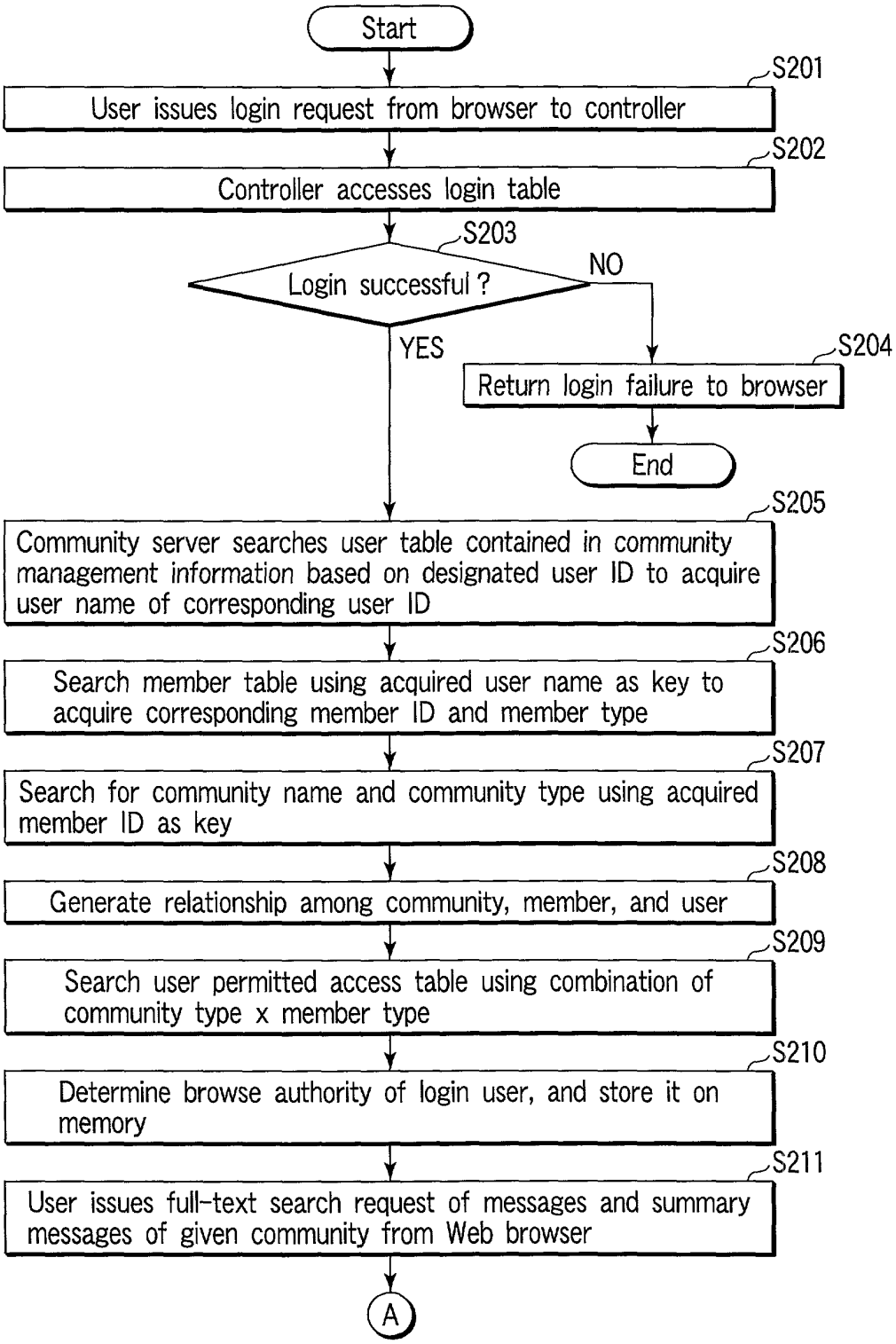
Start
S201
User issues login request from browser to controller
S202
Controller accesses login table
S203
Login successful ?
NO
YES
S204
Return login failure to browser
End
S205
Community server searches user table contained in community management information based on designated user ID to acquire user name of corresponding user ID
S206
Search member table using acquired user name as key to acquire corresponding member ID and member type
S207
Search for community name and community type using acquired member ID as key
S208
Generate relationship among community, member, and user
S209
Search user permitted access table using combination of community type x member type
S210
Determine browse authority of login user, and store it on memory
S211
User issues full-text search request of messages and summary messages of given community from Web browser
A

FIG. 20

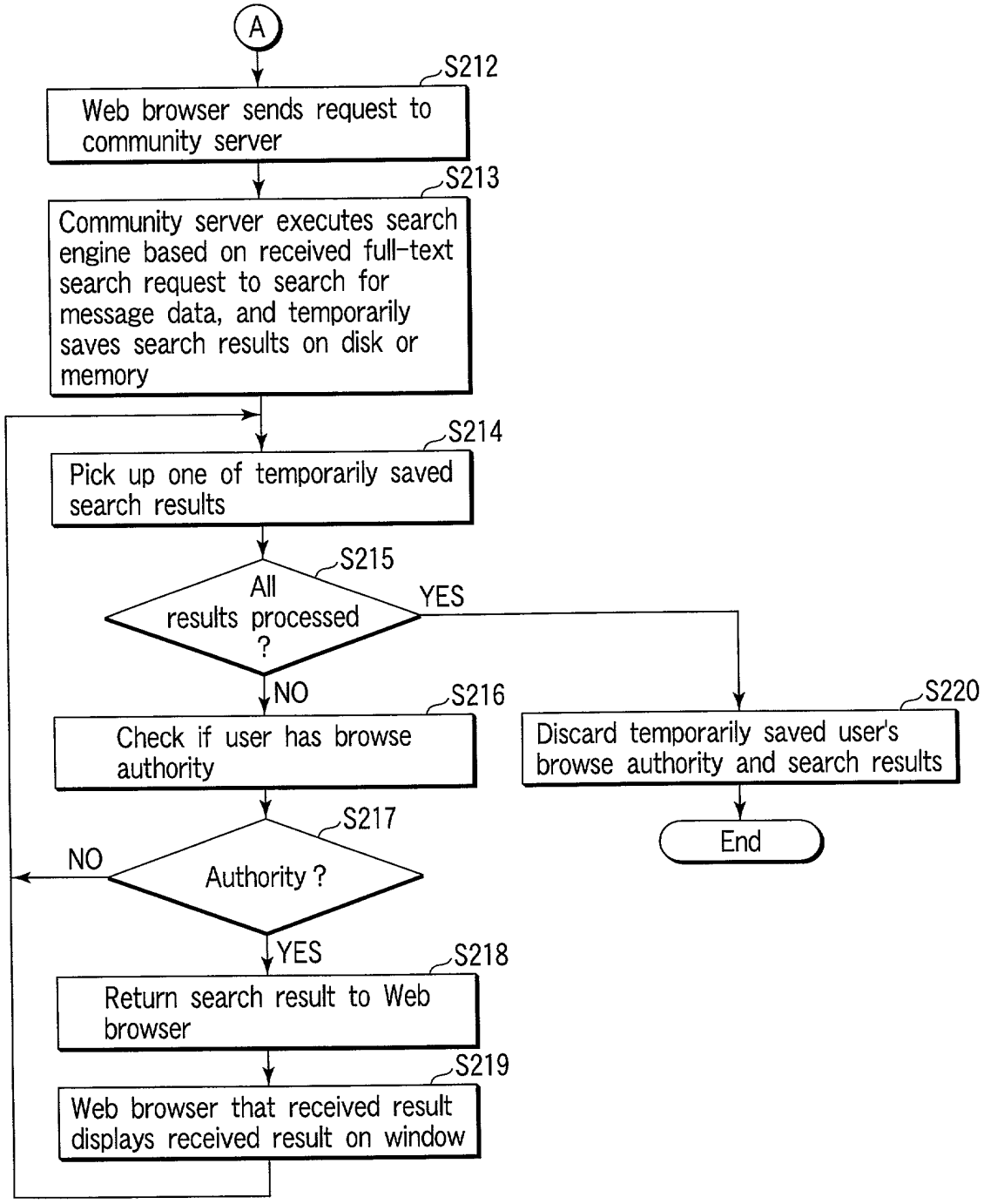
A
S212
Web browser sends request to community server
S213
Community server executes search engine based on received full-text search request to search for message data, and temporarily saves search results on disk or memory
S214
Pick up one of temporarily saved search results
S215
All results processed ?
YES
NO
S216
Check if user has browse authority
S217
Authority ?
NO
YES
S218
Return search result to Web browser
S219
Web browser that received result displays received result on window
S220
Discard temporarily saved user's browse authority and search results
End

FIG. 21